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CLAIMS

What is claimed is:

1. A digital video signal decoding system comprising:  
5 a video signal decoder for decoding a compressed encoded digital video signal during which at least one piece of compressed domain information is generated; and  
a watermark inserter for generating a watermark signal whose strength is derived from the at least one piece of compressed domain information.
- 10 2. A digital video signal decoding system of claim 1, wherein the video signal decoder comprises:  
an entropy decoder for receiving a compressed encoded digital video signal and providing a decoded bit stream thereof;  
an inverse quantizer for dequantizing the decoded data from the entropy decoder into  
15 dequantized code;  
an inverse block transform decoder for transforming the dequantized code into pixel information;  
a motion compensator for receiving the pixel information from the block transform decoder and providing a motion-compensated predicted-picture data stream; and  
20 a summer for summing the motion-compensated predicted-picture data stream and the pixel information into a decompressed decoded video output signal.
3. The digital signal decoder system of claim 1, wherein the watermark inserter comprises:  
25 a watermark signal generator for creating a watermark signal; and  
an adder for adding one of the plurality of pre-generated watermark signals to the decompressed decoded video output of the digital signal decoder system.
4. The digital signal decoder system of claim 1, wherein the watermark inserter  
30 comprises:  
a watermark signal generator for creating a watermark signal;  
a memory unit for storing a plurality of pre-generated watermark signals, and  
an adder for adding one of the plurality of pre-generated watermark signals to the decompressed decoded video output of the digital signal decoder system.

5. The digital signal decoder system of claim 2, wherein the at least one piece of compressed domain information is provided by the entropy decoder.

5 6. The digital signal decoder system of claim 5, wherein the at least one piece of compressed domain information is a count of the number of coded transform coefficients in the decoded bit stream's data blocks.

7. The digital signal decoder system of claim 2, wherein the at least one piece of  
10 compressed domain information is provided by the inverse quantizer.

8. The digital signal decoder system of claim 7, wherein the at least one piece of compressed domain information are values of non-DC transform coefficients in the dequantized code.

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9. The digital signal decoder system of claim 2, wherein the at least one piece of compressed domain information is provided by the output of the summer.

10. The digital signal decoder system of claim 9, wherein the at least one piece of  
20 compressed domain information is absolute luminance DC values of data blocks in the pixel information.

11. A digital signal decoder system of claim 2, wherein the watermark signal contains a unique identifier information.

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12. A digital signal decoder system of claim 11, wherein the unique identifier information includes information regarding a copyright license associated with the digital video signal's content.

30 13. A digital signal decoder system of claim 11, wherein the unique identifier information includes a device specific indicator that will identify the particular video decoder system.

14. A digital signal decoder system of claim 1, wherein the compressed encoded digital video signals are compressed utilizing a video compression standard from the group comprising MPEG-1, MPEG-2, MPEG-4, JVT, H.264, MPEG AVC or H.263

5 15. A method of watermarking a digital video signal comprising:  
decoding a compressed encoded digital video signal into a decompressed decoded video output during which at least one piece of compressed domain information is generated;  
generating a watermark signal whose strength is derived from the at least one piece of compressed domain information; and  
10 adding the watermark signal to the decompressed decoded video output.

16. A method of claim 15, wherein the step of generating a watermark signal comprises:  
receiving the at least one piece of compressed domain information at a watermark signal generator; and  
15 determining the strength of the watermark signal to be generated based on selected attributes of the at least one piece of compressed domain information.

17. A method of claim 15, wherein the step of decoding a compressed encoded digital video signal includes receiving the compressed encoded digital video signal at an entropy  
20 decoder and providing a decoded bit stream thereof; and  
the at least one piece of compressed domain information is a count of the number of coded transform coefficients in the decoded bit stream's data blocks.

18. A method of claim 15, wherein the step of decoding a compressed encoded digital  
25 video signal includes receiving the compressed encoded digital video signal at an entropy decoder and providing a decoded bit stream thereof; and  
the at least on piece of compressed domain information is perceptual slack for the coded transform coefficients in the decoded bit stream's data blocks.

30 19. A method of claim 15, wherein the step of decoding a compressed encoded digital video signal includes:  
receiving the compressed encoded digital video signal at an entropy decoder and providing a decoded bit stream thereof; and  
dequantizing the decoded bit stream into dequantized code; and

the at least one piece of compressed domain information are values of non-DC transform coefficients in the dequantized code.

20. A method of claim 15, wherein the step of decoding a compressed encoded digital video signal includes:

receiving the compressed encoded digital video signal at an entropy decoder and providing a decoded bit stream thereof;

dequantizing the decoded bit stream into dequantized code; and

transforming the dequantized code into pixel information; and

the at least one piece of compressed domain information is absolute luminance DC values of data blocks in the pixel information.

21. A method of claim 20, wherein the at least one piece of compressed domain information is the difference in luminance DC values between a data block and its neighboring data blocks.

22. A method of claim 15, wherein the step of decoding a compressed encoded digital video signal into a decompressed decoded video output includes generation of reference pictures for use in forming predictions of later coded pictures; and

storing the watermark signals in a first memory unit and storing the reference pictures in a second memory unit, wherein the step of adding the watermark signal to the decompressed decoded video output includes retrieving the stored watermark signals from the first memory unit.

23. A method of claim 15, wherein the watermark signal contains a unique identifier information.

24. A method of claim 23, wherein the unique identifier information includes information regarding a copyright license associated with the digital video signal's content.

25. A digital signal decoder system of claim 23, wherein the unique identifier information includes a device specific indicator that will identify the particular video decoder system.

26. A digital signal decoder system of claim 15, wherein the compressed digital video signal is compressed using a compression process applying deblocking filtering and the at least one piece of compressed domain information is the deblocking filtering strength for a particular block transition.

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27. A method of watermarking a digital video signal comprising:  
generating a plurality of watermark signals, each watermark signal having different strength;

storing the plurality of watermark signals in a memory unit;

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decoding a compressed encoded digital video signal into a decompressed decoded video output during which at least one piece of compressed domain information is generated;

selecting a watermark signal from the plurality of watermark signals stored in the memory unit based on the at least one piece of compressed domain information; and

adding the selected watermark signal to the decompressed decoded video output.

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28. A method of claim 27, wherein the watermark signal contains a unique identifier information.

29. A method of claim 28, wherein the unique identifier information includes information regarding a copyright license associated with the digital video signal's content.

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30. A digital signal decoder system of claim 28, wherein the unique identifier information includes a device specific indicator that will identify the particular video decoder system.

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